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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,057	06/24/2003	Toshio Sunaga	JP920020137US1	1056

32074 7590 06/16/2004

INTERNATIONAL BUSINESS MACHINES CORPORATION  
DEPT. 18G  
BLDG. 300-482  
2070 ROUTE 52  
HOPEWELL JUNCTION, NY 12533

EXAMINER
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NGUYEN, DANG T

ART UNIT	PAPER NUMBER
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2178

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/604,057	SUNAGA ET AL.	
	Examiner	Art Unit	
	Dang T Nguyen	2178	

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1, 5, 6, 11 and 13 is/are rejected.
- 7) ☒ Claim(s) 2-4, 7, 12 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/11/1003</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Search history</u> .                   |

### **DETAILED ACTION**

1. This action is responsive to the following communications: the Application filed on June 24, 2003 and the Information Disclosure Statement filed on July 11, 2003.
2. Claims 1 - 14 are pending in this case. Claims 1, 9, and 11 are independent claims.

### ***Drawings***

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 5, 6, 11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawai et al. U.S. Patent No. 6,560,164.**

**Regarding independent claim 1**, Figs. 1 and 3 of Kawai et al. disclose a timing circuit comprising: a clock generator (5 [21, 22, 23]); a comparator [14, 15] for comparing an inputted control voltage [Vref1, Vref2] and a reference voltage [VrefR], a retaining circuit [16 – 18] for retaining an output of said comparator [14, 15]; and a circuit [24] for producing timing pulses [Ø OUT] as an output thereof based on an output [Ø A, Ø B, Ø C] of said retaining circuit and clock signals [Ø 0, Ø 1, Ø 2] outputted from said clock generator (5 [21, 22, 23]).

**Regarding dependent claim 5**, Fig. 3 of Kawai et al. discloses wherein said comparator comprises: a first comparator [14] for receiving a first reference voltage [VREF1] and said control voltage [VREFR], and a second comparator [15] for receiving a second reference voltage [VREF2] and said control voltage [VREFR].

**Regarding dependent claim 6**, Fig. 3 of Kawai et al. discloses wherein said retaining circuit comprises a first latch circuit [16] for receiving an output of said first comparator [14]; and a second latch circuit [17] for receiving an output of said second comparator [15].

**Regarding dependent claim 11**, Fig. 3 of Kawai et al. discloses a method for changing a clock period, comprising:

- (a) a step of preparing a reference clock signal (Col. 7 lines 46 - 55);
- (b) a step of detecting a temperature at a predetermined sampling period (Col. 7 lines 14 – 29); and

(c) a step of changing a period of said reference clock signal depending on said detected temperature (Col. 7 lines 53 – 56).

**Regarding independent claim 13**, Kawai et al. discloses wherein the step (c) comprises a step of producing a clock signal having a longer period by increasing the number of pulses decimated from said reference clock signal depending on temperature (Fig. 5, Col. 9 lines 25 – 35).

### ***Allowable Subject Matter***

5. Claims 2, 3, 4, 7, 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: With regard to claim 2, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “the comparator receives a first clock signal outputted from said clock generator and is operated only for a time corresponding to a short pulse width of said first clock signal”.

With regard to claim 3, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “a timing circuit having a counter for receiving the output of said retaining circuit and a first clock signal outputted from said clock generator; and a logic circuit for receiving an output of said counter and a second clock signal outputted from said clock generator”.

With regard to claim 12, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest "the step of detecting a temperature only for a time corresponding to a short pulse width of a clock signal that changes its level at said sampling period".

With regard to claim 14, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest "the sampling period is a period determined by  $T \times n$  where  $T$  represents the period of said reference clock signal and  $n$  represents an arbitrary natural number, and said natural number  $n$  is set to a large value when the changing speed of the temperature is slow, and to a small value when the changing speed of the temperature is fast".

6. Claims 8 – 10 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 8 and 9, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest "a timing circuit having a comparator receives a first clocks signal output from a clock generator and operated only for a time corresponding to a short pulse width of said first clock signal".

#### ***Prior art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nam et al.      Patent No. US 6,597,614 B2      Date of Patent: Jul. 22, 2003

Eto                      Patent No. US 5,774,404                      Date of Patent: Jun. 30, 1998

Hong et al.              Patent No. US 6,650,581 B2                      Date of Patent: Nov. 18, 2003

***Contact Information***

8. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (703) 305-1673. Normal contact times are M-F, 8-4:30.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Heather Herndon, may be reached at (703) 308-5186.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or faxed to:

(703) 746-7239 (for formal communications intended for entry)

or:

(703) 746-7238 (for after-final communications)

Hand-delivered responses should be brought to

Crystal Park II, 2121 Crystal Drive  
Arlington, VA, Fourth Floor (receptionist).

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Art Unit: 2178

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Dang Nguyen 6/2/2004



**RICHARD F. MC**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**